AMENDMENTS TO THE CLAIMS

In the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

What is claimed is:

1-43. **(canceled)**

44. **(original)** A method for identifying a compound suitable for use in treating diabetes or insulin resistance in a subject, said method comprising contacting a cell capable of expressing TAP mRNA with a test compound and determining the effect of the test compound on expression of TAP mRNA, wherein a stimulatory effect is indicative of the compound being suitable for use in treating diabetes or insulin resistance in said subject.

45. **(original)** A method for identifying a compound suitable for use in treating diabetes or insulin resistance in a subject, said method comprising contacting a cell capable of expressing TAP protein with a test compound and determining the effect of the test compound on expression of TAP protein, wherein a stimulatory effect is indicative of the compound being suitable for use in treating diabetes or insulin resistance in said subject.

46. **(original)** A method for identifying a compound suitable for use in treating diabetes or insulin resistance in a subject, said method comprising contacting a cell which expresses TAP protein with a test compound and determining the effect of the test compound on a biological activity of the TAP protein, wherein a stimulatory effect is indicative of the compound being suitable for use in treating diabetes or insulin resistance in said subject.

47. **(original)** A method for identifying a compound suitable for use in treating diabetes or insulin resistance in a subject, said method comprising contacting a TAP protein or biologically active portion thereof with a test compound and determining the effect of the test compound on a biological activity of the TAP protein or portion, wherein a stimulatory effect is

indicative of the compound being suitable for use in treating diabetes or insulin resistance in said subject.

48-72. **(canceled)**

73. **(new)** A method for identifying an insulin response modulator, comprising contacting a composition comprising IRAP or a bioactive fragment thereof and TAP or a bioactive fragment thereof with a test compound and determining the ability of the test compound to modulate binding of the IRAP or bioactive fragment to the TAP or bioactive fragment, such that an insulin response modulator is identified.

74. **(new)** A method for identifying an insulin response modulator, comprising contacting a donor vesicle fraction comprising GLUT4 vesicles with a test compound and determining the ability of the test compound to modulate GLUT4 vesicle translocation, such that an insulin response modulator is identified, wherein said donor fraction is associated with TAP or a bioactive fragment thereof prior to contacting with said test compound.

75. **(new)** The method of claim 74, wherein determining the ability of the test compound to modulate GLUT4 vesicle translocation comprises detecting translocation of a GLUT4 vesicle component to an acceptor vesicle fraction.

76. **(new)** The method of claim 75, wherein determining the ability of the test compound to modulate GLUT4 vesicle translocation comprises detecting a change in GLUT4 levels in said acceptor fraction.

77. **(new)** The method of claim 76, wherein detecting a change in GLUT4 levels in said acceptor fraction comprises detecting GLUT4 levels in said acceptor fraction after contacting said donor fraction with the test compound as compared to a control acceptor fraction.

78. **(new)** The method of claim 75, wherein determining the ability of the test compound to modulate GLUT4 vesicle translocation comprises detecting a change in IRAP levels in said acceptor fraction.

79. **(new)** The method of claim 78, wherein detecting a change in IRAP levels in said acceptor fraction comprises detecting IRAP levels in said acceptor fraction after contacting said donor fraction with the test compound as compared to a control acceptor fraction.

80. **(new)** The method of any one of claims 74-79, wherein said donor fraction is a GLUT4 vesicle preparation or a low density microsomal fraction.

81. **(new)** The method of any one of claims 75-79, wherein said acceptor fraction is a plasma membrane fraction.

82. **(new)** The method of any one of claims 75-79, wherein said acceptor fraction is a plasma membrane fraction and said donor fraction is a GLUT4 vesicle preparation or a low density microsomal fraction.

83. **(new)** A method for identifying an insulin response modulator, comprising contacting a cell that expresses TAP or a bioactive fragment thereof with a test compound and determining the ability of the test compound to modulate an activity selected from the group consisting of glucose uptake, GLUT4 vesicle translocation, IRAP translocation and extracellular aminopeptidase activity, such that an insulin response modulator is identified.

84. **(new)** The method of claim 83, wherein said cell overexpresses TAP.

85. **(new)** The method of claim 83, wherein said cell overexpresses IRAP.

86. **(new)** The method of claim 83, wherein the ability of the test compound to modulate GLUT4 vesicle translocation or IRAP translocation is determined.

87. **(new)** The method of any one of claims 75-79, wherein determining the ability of the test compound to modulate GLUT4 vesicle translocation comprises detecting fluorescence resonance energy transfer from a component of the donor fraction to a component of the acceptor fraction.

88. **(new)** A method for identifying an insulin response modulator, comprising contacting an assay vesicle with a test compound, wherein said assay vesicle is associated with TAP or a bioactive fragment thereof prior to contacting with said test compound, and

determining the ability of the test compound to modulate release of the assay vesicle from the TAP or bioactive fragment thereof, such that an insulin response modulator is identified.

89. **(new)** The method of claim 88, wherein the TAP or bioactive fragment thereof is immobilized.

90. **(new)** The method of claim 88, wherein the TAP or bioactive fragment thereof is bound to a membrane.

91. **(new)** The method of claim 88, wherein the TAP or bioactive fragment thereof is immobilized to a suitable assay vessel.

92. **(new)** The method of claim 88, wherein the assay vesicle is detectably labeled.

93. **(new)** The method of claim 88, wherein the assay vesicle is radioactively labeled.

94. **(new)** The method of claim 88, wherein determining the ability of the test compound to modulate assay vesicle release, comprises comparing the amount of radioactive label in association with the immobilized TAP or bioactive fragment thereof with an appropriate control.

95. **(new)** The method of claim 88, wherein the assay vesicle comprises a fluorescent dye.

96. **(new)** The method of claim 95, wherein determining the ability of the test compound to modulate assay vesicle release, comprises comparing the amount of fluorescent label in association with the immobilized TAP or bioactive fragment thereof with an appropriate control.

97. **(new)** The method of claim 88, wherein the assay vesicle is immobilized.

98. **(new)** The method of claim 97, wherein the assay vesicle is bound to a membrane.

99. **(new)** The method of claim 97, wherein the assay vesicle is immobilized to a suitable assay vessel.

100. (**new**) The method of claim 97, wherein the TAP or bioactive fragment thereof is detectably labeled.

101. (**new**) The method of claim 97, wherein the TAP or bioactive fragment thereof is radioactively labeled.

102. (**new**) The method of claim 97, wherein the TAP or bioactive fragment thereof is fluorescently labeled.

103. (**new**) The method of any one of claims 73-74, 83 and 88, wherein the modulator identified is a positive modulator.

104. (**new**) A method for identifying an IRAP:TAP modulator, comprising contacting a composition comprising IRAP or bioactive fragment thereof and TAP or bioactive fragment thereof with a test compound and determining the ability of the test compound to enhance binding of the IRAP or bioactive fragment thereof to the TAP or bioactive fragment thereof, such that the modulator is identified.

105. (**new**) A method for identifying an IRAP:TAP modulator, comprising contacting a composition comprising IRAP or bioactive fragment thereof and TAP or bioactive fragment thereof with a test compound and determining the ability of the test compound to inhibit binding of the IRAP or bioactive fragment thereof to the TAP or bioactive fragment thereof, such that the modulator is identified.